Amendment to the Specification:

Please delete the paragraph on page 8, line 12 through page 9, line 4, with the paragraph that follows:

Referring now to FIGURE 3, in exemplary wireless communication system embodiments according to the invention, a receiver 31 includes a probability generator 34 coupled to an antenna which receives symbol [[$_t$]] Z_t from a transmitter that employs transmit diversity, for example the transmitter 11 of FIGURE 1. The probability generator 34 calculates the values of the leftmost probability in Expressions (8) and (9). At its input 47, the probability generator receives (as feedback) from SISO decoder 35 the values of the rightmost probability of Expression (9). At its input 48, the probability generator 34 receives (as feedback) from the SISO decoder 36 the values of the rightmost probability of Expression (8). Having calculated the values of the leftmost probability of Expressions (8) and (9), and having received the values of the rightmost probabilities of Expressions (8) and (9) from the SISO decoders 36 and 35, respectively, the probability generator 34 performs the summation of Expression (8) to produce at its output 45 the values of the probability of Expression (2), and also performs the summation of Expression (9) to produce at its output 46 the values of the probability of Expression (3).

Please delete the paragraph on page 12, lines 1 through 12, with the paragraph that follows:

At 52, SISO 35 uses the initial a priori output probabilities to produce a posteriori input probabilities. At 53, interleaving is applied to the a posteriori input probabilities from SISO 35. At 54, SISO 36 uses the initial (for the first iteration) a priori output probabilities and the interleaved a posteriori input probabilities of SISO 35 to produce a posteriori input and output probabilities. At 55, de-interleaving is applied to the a posteriori input probabilities from SISO 36. At 56, the a posteriori output probabilities from SISO 36 are used to produce a priori output probabilities for SISO 35. At 57, the SISO 35 uses its a priori output probabilities and the de-

2

interleaved a posteriori input probabilities of SISO 36 to produce a posteriori input and output probabilities. At 58, the a posteriori output probabilities from SISO 35 are used to produce produced a priori output probabilities for SISO 36. The operations at 53-58 are then repeated for any desired number of iterations.